Family: MELIACEAE (angiosperm)  
Scientific name(s): Entandrophragma utile  
Commercial restriction: no commercial restriction

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**WOOD DESCRIPTION**

- **Color:** red brown
- **Sapwood:** clearly demarcated
- **Texture:** medium
- **Grain:** interlocked
- **Interlocked grain:** slight

**LOG DESCRIPTION**

- **Diameter:** from 60 to 120 cm
- **Thickess of sapwood:** from 2 to 6 cm
- **Floats:** yes
- **Log durability:** moderate (treatment recommended)

**DESCRIPTION**

- **Color:** Sapwood: pinkish brown to red brown slightly purplish, with moiré shades. Ribbon like aspect on quartersawn. Irregular grain.
- **Density:** 0.62 to 0.04
- **Moisture content:** 3.0 to 0.4
- **Coefficient of volumetric shrinkage:** 6.4 % to 0.7 %
- **TS/RS ratio:** 1.4
- **Fiber saturation point:** 30 %
- **Stability:** moderately stable to stable

**PHYSICAL PROPERTIES**

Physical and mechanical properties are based on mature heartwood specimens. These properties can vary greatly depending on origin and growth conditions.

<table>
<thead>
<tr>
<th>Property</th>
<th>Mean</th>
<th>Std dev.</th>
<th>Mean</th>
<th>Std dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific gravity *:</td>
<td>0.62</td>
<td>0.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monnin hardness *:</td>
<td>3.0</td>
<td>0.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coeff. of volumetric shrinkage:</td>
<td>0.42 %</td>
<td>0.06 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total tangential shrinkage (TS):</td>
<td>6.4 %</td>
<td>0.7 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total radial shrinkage (RS):</td>
<td>4.6 %</td>
<td>0.7 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TS/RS ratio:</td>
<td>1.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiber saturation point:</td>
<td>30 %</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Crushing strength *: 56 MPa
- Static bending strength *: 91 MPa
- Modulus of elasticity *: 13240 MPa
- Muscular quality factor: 112.6 measured at 2663 Hz

**MECHANICAL AND ACOUSTIC PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Mean</th>
<th>Std dev.</th>
<th>Mean</th>
<th>Std dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Note: Hardness varies from soft to fairly hard.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

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**NATURAL DURABILITY AND TREATABILITY**

Fungi and termite resistance refers to end-uses under temperate climate. Except for special comments on sapwood, natural durability is based on mature heartwood. Sapwood must always be considered as non-durable against wood degrading agents.

E.N. = Euro Norm

- **Fungi** (according to E.N. standards): class 2-3 - durable to moderately durable
- **Dry wood borers**: class D - durable (sapwood demarcated, risk limited to sapwood)
- **Termites** (according to E.N. standards): class M - moderately durable
- **Treatability** (according to E.N. standards): class 4 - not permeable
- **Use class ensured by natural durability**: class 2 - inside or under cover (dampness possible)
- **Species covering the use class S**: no

Note: This species is listed in the European standard NF EN 350-2.

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**REQUIREMENT OF A PRESERVATIVE TREATMENT**

- **Against dry wood borer attacks:** does not require any preservative treatment
- **In case of risk of temporary humidification:** requires appropriate preservative treatment
- **In case of risk of permanent humidification:** use not recommended
DRYING

<table>
<thead>
<tr>
<th>Drying rate: normal</th>
<th>Possible drying schedule: 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of distortion: slight risk</td>
<td>M.C. (%)</td>
</tr>
<tr>
<td>Risk of casehardening: no</td>
<td>dry-bulb</td>
</tr>
<tr>
<td>Risk of checking: slight risk</td>
<td>Green</td>
</tr>
<tr>
<td>Risk of collapse: no</td>
<td>40</td>
</tr>
<tr>
<td>Note: The risks of distortion increase in presence of highly interlocked grain especially during kiln drying. Original shakes tend to extend.</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

This schedule is given for information only and is applicable to thickness lower or equal to 38 mm. It must be used in compliance with the code of practice. For thickness from 38 to 75 mm, the air relative humidity should be increased by 5 % at each step. For thickness over 75 mm, a 10 % increase should be considered.

SAWING AND MACHINING

- Blunting effect: normal
- Sawteeth recommended: ordinary or alloy steel
- Cutting tools: ordinary
- Peeling: good
- Slicing: good
- Note: Tendency to tearing due to interlocked grain.

ASSEMBLING

- Nailing / screwing: good
- Gluing: correct
- Note: Gluing requires care: it can stain wood.

COMMERCIAL GRADING

Appearance grading for sawn timbers: According to SATA grading rules (1996)
- For the "General Purpose Market":
  - Possible grading for square edged timbers: choix I, choix II, choix III, choix IV
  - Possible grading for short length lumbers: choix I, choix II
  - Possible grading for short length rafters: choix I, choix II, choix III
- For the "Special Market":
  - Possible grading for strips and small boards (ou battens): choix I, choix II, choix III
  - Possible grading for rafters: choix I, choix II, choix III

FIRE SAFETY

Conventional French grading: Thickness > 14 mm : M3 (moderately inflammable)
Thickness < 14 mm : M4 (easily inflammable)

Euroclasses grading: D s2 d0
Default grading for solid wood, according to requirements of European standard EN 14081-1 annex C (April 2009). It concerns structural graded timber in vertical uses with mean density upper 0.35 and thickness upper 22 mm.

END-USES

- Sliced veneer
- Cabinetwork (high class furniture)
- Interior joinery
- Veneer for back or face of plywood
- Open boats
- Stairs (inside)
- Light carpentry
- Current furniture or furniture components
- Exterior joinery
- Interior panelling
- Moulding
- Flooring
- Rolling shutters
- Glued laminated
- Note: Filling is recommended in order to obtain a better finish.
### MAIN LOCAL NAMES

<table>
<thead>
<tr>
<th>Country</th>
<th>Local name</th>
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<th>Local name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola</td>
<td>KALUNGI</td>
<td>Cameroon</td>
<td>ASSENG-ASSIE</td>
</tr>
<tr>
<td>Congo</td>
<td>KALUNGI</td>
<td>Ivory Coast</td>
<td>SIPO</td>
</tr>
<tr>
<td>Gabon</td>
<td>ASSI</td>
<td>Ghana</td>
<td>UTILE</td>
</tr>
<tr>
<td>Equatorial Guinea</td>
<td>ABEBAY</td>
<td>Nigeria</td>
<td>UTILE</td>
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<tr>
<td>Uganda</td>
<td>MUFUMBI</td>
<td>Central African Republic</td>
<td>BOKOI</td>
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<td>Democratic Republic of the Congo</td>
<td>KALUNGI</td>
<td>Democratic Republic of the Congo</td>
<td>LIBOYO</td>
</tr>
<tr>
<td>Germany</td>
<td>SIPO-MAHOGANY</td>
<td>United Kingdom</td>
<td>UTILE</td>
</tr>
</tbody>
</table>

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www.sitco.com  

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